



Flood Response Guidance for Municipal and County Government

Kansas Department of Health & Environment

The following guidance documents are provided to help advise municipal and county governments respond to questions from the public during flood response and help devise their own flood waste disposal management plan. KDHE has prepared this guidance for management of storm-related debris, demolition debris from flooded structures, and post-flood mold cleanup guidelines. This information is not all-inclusive, but can be used to help determine an appropriate plan of action in the affected communities. City and/or county personnel are encouraged to contact your KDHE-assigned representative if you have additional questions concerning debris management alternatives. Your KDHE representative's name and contact information is provided in the cover letter sent with these guidance documents.

Guidance Documents:

- Post-Flood Debris Management
- Guidance on Waste Tire Disposal in Flood Areas
- Post-Flood Mold Cleanup

Acronyms:

BAR	=	KDHE Bureau of Air and Radiation (785) 296-1544
BER	=	KDHE Bureau of Environmental Remediation (785) 296-1660
BWM	=	KDHE Bureau of Waste Management (785) 296-1600
C&D	=	Permitted Construction and Demolition Landfill
FEMA	=	Federal Emergency Management Agency
HHW	=	Household Hazardous Waste
KDHE	=	Kansas Department of Health & Environment
MSW	=	Municipal Solid Waste

Post-Flood Debris Management

*The guidance detailed below establishes consistent guidelines for the disposal of flood debris. These guidelines are being used by all KDHE staff working with local city and county authorities to determine how to manage flood debris. This guidance does **not** address the clean up of environmental contamination of soil or groundwater. Such needs will be handled separately and coordinated with the KDHE Bureau of Environmental Remediation (BER) as they arise. However, it does cover debris that is contaminated with petroleum in Coffeyville.*

KDHE staff contacted local authorities to discuss disposal options and arrange site visits, as appropriate, to help select the best disposal options (see priority list below).

Burning of Debris

Burning of all debris or dead animals should be discouraged. Burning of trees and brush are permitted in either currently approved tree and brush burn sites or at newly established sites. BEFS district offices will process approvals for new burn sites as necessary. Any local government requests to burn waste must be referred to BAR who will evaluate the requests and determine how to respond.

Dead Animal Disposal

Ken Powell, BWM, is coordinating dead animal disposal and processing. He can be reached 24/7 at (785) 230-3094. In priority order the preferred disposal methods for dead animals at agricultural facilities are: (1) rendering, (2) composting, and (3) burial. Incineration is to be discouraged. Disposal of a small number of animals may take place at nearby permitted Municipal Solid Waste (MSW) landfills. Animal disposal should not take place at construction and demolition (C&D) landfills or reopened landfills.

Material Segregation Prior to Demolition and Debris Disposal

All staff that are coordinating debris disposal should make it a priority to communicate the need to separate hazardous materials and white goods (appliances) from the debris.

Hazardous Materials: Household Hazardous Waste (HHW) materials include households and abandoned waste. Ideally, a local or regional HHW program will process hazardous materials; however, if no program is available, any local government (city or county) may segregate such materials in a secure area for subsequent disposal by a qualified contractor. HHW programs and other local governments can be reimbursed for the expenses of hazardous material disposal (either by KDHE or using federal funds - yet to be determined). Hazardous materials storage areas should be in covered and paved areas, if possible. If the storage is on an unpaved lot, KDHE recommends the materials be stored on a temporary layer of high-density polyethylene with a similar cover to minimize contaminated runoff. General questions regarding hazardous material collection and disposal should be referred to Jim Rudeen (BWM) at (785) 296-1603.

Electronic Devices: Damaged electronic devices should be recycled if such recycling services are available, but they may be managed with other furniture and debris in the selected disposal areas.

Material Segregation Continued:

White Goods: White goods (including air conditioners) separation is necessary before debris is taken to selected disposal sites. Counties typically have metal recycling operations at an active landfill or transfer station. It is recommended that such wastes be taken to these sites; however, other private or city-run collection activities are acceptable. The local collecting entity will be the responsible for ensuring Freon has been removed from refrigerators, freezers, and air conditioners. Rotting food should be emptied out of refrigerators (or other parts of impacted homes, restaurants and stores) and managed as municipal solid waste when the opportunity for routine collection becomes available.

The \$1 Per Ton Solid Waste Tonnage Fee

All debris generated because of the flood is not subject to the \$1 per ton landfill tonnage fee. Permitted landfills that receive such waste should keep records of flood debris for later reporting to KDHE with quarterly tonnage reports. It should be reported as a type of exempt waste. Any reopened MSW landfills or old city dumps will not be subject to the tonnage fee and no reports to KDHE are necessary.

Disposal of Flood Debris on Farms, Ranches or Rural Residences

State law allows individuals to dispose of waste generated by their residential or farming operations on their own property as long as such practices do not create a nuisance or risk to public health. Using regulatory discretion, we should inform such individuals that the disposal of flood-damaged items from their home or other buildings in this manner is acceptable. However, if such an individual wishes to demolish a structure and dispose of it on-site; they must contact the Bureau of Waste Management (BWM) and follow the procedures set forth in KSA 65-3407c. The contact should be to Dennis Degner, Sam Sunderraj, or Larry Molder (BWM) at (785) 296-1600. Each person can help process such requests.

Debris Disposal Priorities

Priority 1- Use existing permitted C&D or MSW landfills for flood debris if the facilities are accessible, undamaged by the flood, and if the waste quantity is not so large that it consumes most of the existing capacity. If a C&D landfill is selected, please notify BWM (Dennis Degner – (785) 296-1601). A letter must be sent by KDHE BWM to the C&D landfill owner authorizing the disposal of all flood debris, which has had hazardous materials and white goods removed. THE BWM approval letter shall provide a timeframe for disposal. KDHE staff reporting to BWM should attempt to estimate the time needs for this special disposal effort.

Priority 2 - Reopen closed monitored MSW landfills currently in the BER database. Reopening these permitted landfills requires the local government owner to assume responsibility for properly closing the landfill. KDHE staff that work with local government authorities should utilize the form in our Natural Hazards Response Plan for receiving local government commitments of responsibility and for approving of disposal areas. KDHE must secure a local government signature before opening the landfill for flood debris. Authorized KDHE representatives may sign the forms for KDHE.

Priority 3 - Reopen closed city dumps (unpermitted) currently in the BER database. As with closed MSW landfills, reopening these sites requires the local government owner to assume responsibility for closing the landfill. The same form as described for closed MSW landfills should be utilized. KDHE recommends that only city-owned dumpsites be considered for disposal.

Priority 4 - Identify a new disposal site. Again, the same commitment and approval form should be used. Any new site should be coordinated with BWM solid waste permitting section. BWM will help identify key site hydrogeological characteristics before finalizing such approvals or completion of forms. Though available, this alternative is discouraged.

Note: Use of closed MSW landfills and city dumps requires that the area be closed in an environmentally sound manner. If old landfills are reopened, the landfill closure standards may vary depending upon the significance of waste disposed. BER will probably oversee the re-closure of sites that receive relatively small volumes of waste using the same standards of closure that were initially used for the facilities. BWM will probably oversee closure using C&D landfill closure standards when major new disposal activities take place.

Local authorities may choose to use an active permitted nearby *private* landfill; however, KDHE should not become involved in questions related to "who pays the bill." FEMA reimbursement and approvals of disposal areas may become an issue. We should limit our involvement to helping select the best disposal sites for each location. Local authorities will need to communicate with FEMA to ensure that they accept such sites as eligible for cost reimbursement. KDHE may also need to communicate with FEMA to ensure them that we are following environmentally sound procedures when providing guidance for waste segregation and approving disposal sites.

Guidance on Waste Tire Disposal in Flood Areas

Waste tires have been noted to be a concern in some of the flooded areas of the state. If waste tires are mixed with flood debris that has been approved for disposal in a C&D landfill, the tires do not need to be separated from the debris. If the tires are collected separately, then they should be stockpiled and disposed in accordance with the waste tire disposal statutes and regulations. Also, if waste tires contaminated with mud are recovered during flood clean-up work, these "flood-related" tires may be disposed at a permitted C&D landfills. Tires contaminated with petroleum (e.g. Coffeyville) should go to a permitted Subtitle D landfill. Any tires considered too contaminated for processing would need to be evaluated by KDHE staff in accordance with K.S.A. 65-3424(d) and K.A.R. 28-29-29(a) to determine if the tires could be sent directly to a landfill for disposal.

Any tires contaminated with floodwater should be processed and disposed in the normal manner. The personnel handling the tires should be advised to have their hepatitis vaccines current, wear protective clothing and splash resistant goggles. These precautions should facilitate the movement of waste tires to proper disposal areas with minimal interruption.

If there are additional questions, Ken Powell, BWM can be reached on at (785) 296-1121.

Post-Flood Mold Cleanup

FOR IMMEDIATE RELEASE:

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KDHE Offers Advice on Post-Flood Mold Cleanup

The Kansas Department of Health and Environment (KDHE) is providing recommendations for controlling mold. After storms and flooding, it is important for property owners to clean up in a way that eliminates mold growth as much as possible. Exposure to mold can lead to allergic reactions, asthma and other problems with breathing. Mold can also damage wood and other parts of a building if left untreated.

After flooding, flooded structures should be dried thoroughly and quickly. Mold spores are almost everywhere and will grow on sheetrock, carpets, furniture and other materials in the presence of moisture. Here are some things to know when cleaning up after flooding:

- Wear rubber boots, rubber gloves and goggles.
- KDHE recommends wearing non-venting goggles to protect eyes from exposure to mold spores. However, any goggles are better than none.
- Wear a tight-fitting N95 respirator available through hardware stores or suppliers to help protect your respiratory system. If N95 respirators are not available, any mask is better than none.
- Floors and other hard surfaces exposed to clean rainwater should be wiped with a mild soapy solution.
- Rinse and thoroughly dry the area using fans and dehumidifiers.
- Wash clothing and other fabric items with laundry soap and thoroughly dry them.
- Hard, non-porous surfaces may be cleaned with a dilute bleach solution made by mixing no more than 1 cup of bleach in one gallon of water.
 - Just spraying with bleach or other mold retardant, or simply painting over the mold, only masks the problem and does not stop growth.
 - Never mix bleach with ammonia or other cleaners.
 - Open windows and doors to get fresh air when using bleach.
 - Wash the item with the bleach and water mixture.
 - If the surface of the item is rough, scrub the surface with a stiff brush.
 - Rinse the item with clean water.
 - Dry the item or leave it outdoors in full sun to dry.
- Ceiling tiles, wallboard, carpet, upholstered furniture and other porous materials exposed to clean rain water should be thoroughly dried within 48 hours. After that, mold cannot be adequately removed, and the items will need to be discarded. Flood water is contaminated water, and porous items exposed to flood water should be discarded.

- If mold covers a small area, you might be able to eliminate it yourself. However, if mold growth is over a large area, or if it has grown into surfaces such as walls or floors, you might need to contact a professional who specializes in mold removal.

For additional information, contact Joyce Barrett, (785) 368-6683, jbarret@kdhe.state.ks.us; or Scott Weir, (785) 291-3272, sweir@kdhe.state.ks.us; or link to the Centers for Disease Control and Prevention (CDC) mold removal fact sheet at www.bt.cdc.gov/disasters/pdf/flyer-get-rid-of-mold.pdf or the Environmental Protection Agency (EPA) Web site at www.epa.gov/iaq/molds/moldresources.html.
